

What is claimed is:

1. A data communication system constructed as a transmitting side data communication terminal device comprising a coding means for generating, by receiving supplied transmitted data and transmission parameter, coded/multiplexed transmitted data corresponding to the transmitted data and transmission parameter and a transmitting process parameter used for a transmitting process on the coded/multiplexed transmitted data, wherein;

the coding means includes:

the transmitting side data communication terminal device having a coding process unit for obtaining the coded/multiplexed transmitted data corresponding to the transmitted data by using a supplied coding process parameter, a parameter calculation check unit for checking, according to transport format data contained in the transmission parameter, whether the process parameter concerning a pertinent transport format combination has been calculated, a coding parameter calculation unit for calculating the process parameter including the coding process parameter and the transmitting process parameter according to the transmission parameter, and a buffer control means for reading out and storing a pertinent process parameter with respect to the process parameter buffer according to a buffer control signal from the parameter calculation check unit, while updating utilization frequency data; and

a receiving side data communication terminal unit including a decoding means for receiving non-decoded data supplied from a receiving means, which executed process on the received data by using a receiving process parameter, and generating decoded received data by using a supplied reception parameter, the decoding means having a decoding process unit for obtaining decoded received data by decoding non-decoded data supplied from the receiving means, which executes a process using the receiving process parameter, a parameter calculation check unit for checking, at the time of the reception and by using transport format combination indicator (TFCI) data obtained from the decoding process unit, whether the process parameters in the pertinent transport format combination have been calculated, a decoding parameter calculation unit for calculating the process parameter including the decoding process parameter and the receiving process parameter, a process parameter buffer for preserving a plurality of process parameters, and a buffer control means for reading out and storing a pertinent process parameter with respect to the process parameter buffer according to a buffer control signal from the parameter calculation check unit, while updating the utilization frequency data.

2. A data communication terminal comprising a coding means for generating, by receiving supplied transmitted data and transmission parameter,

coded/multiplexed transmitted data corresponding to the transmitted data and transmission parameter and a transmitting process parameter used for a transmitting process on the coded/multiplexed transmitted data, wherein;

the coding means includes:

the transmitting side data communication terminal device having a coding process unit for obtaining the coded/multiplexed transmitted data corresponding to the transmitted data by using a supplied coding process parameter, a parameter calculation check unit for checking, according to transport format data contained in the transmission parameter, whether the process parameter concerning a pertinent transport format combination has been calculated, a coding parameter calculation unit for calculating the process parameter including the coding process parameter and the transmitting process parameter according to the transmission parameter, and a buffer control means for reading out and storing a pertinent process parameter with respect to the process parameter buffer according to a buffer control signal from the parameter calculation check unit, while updating utilization frequency data.

3. A data terminal device comprising a decoding means for receiving non-decoded data supplied from a receiving means, which executed process on the received data by using a receiving process parameter, and

generating decoded received data by using a supplied reception parameter, wherein

the decoding means includes

a decoding process unit for obtaining decoded received data by decoding non-decoded data supplied from the receiving means, which executes a process using the receiving process parameter,

a parameter calculation check unit for checking, at the time of the reception and by using transport format combination indicator (TFCI) data obtained from the decoding process unit, whether the process parameters in the pertinent transport format combination have been calculated,

a decoding parameter calculation unit for calculating the process parameter including the decoding process parameter and the receiving process parameter, a process parameter buffer for preserving a plurality of process parameters, and

a buffer control means for reading out and storing a pertinent process parameter with respect to the process parameter buffer according to a buffer control signal from the parameter calculation check unit, while updating the utilization frequency data.

4. The data communication terminal device according to claim 2, wherein the process parameter buffer stores preference rank record flag, use history of a plurality of a plurality of times of past use of transport

format combination indicator (TFCI) and one or more items of the number of times of use of each TFCI together with the pertinent process parameter.

5. The data communication terminal device according to claim 3, wherein the process parameter buffer stores preference rank record flag, use history of a plurality of a plurality of times of past use of transport format combination indicator (TFCI) and one or more items of the number of times of use of each TFCI together with the pertinent process parameter.

6. The data communication terminal device according to claim 2, wherein the parameter calculation check unit causes, when it decides that the pertinent process parameter has not yet been calculated, the coding parameter process unit to calculate the process parameter and issues, when the process parameter has been calculated, an instruction to the buffer control means for reading out the process parameter from the process parameter buffer and using the read-out process parameter.

7. The data communication terminal device according to claim 3, wherein the parameter calculation check unit causes, when it decides that the pertinent process parameter has not yet been calculated, the coding parameter process unit to calculate the process parameter and issues, when the process parameter has been calculated,

an instruction to the buffer control means for reading out the process parameter from the process parameter buffer and using the read-out process parameter.

8. The data communication terminal unit according to one of claims 2 and 3, wherein the buffer control means adds, to the contents in the process parameter buffer, the number of times of use of transport format combination indicator (TFCI) in a pertinent parameter table, with respect to which reading and storing are done, while updating TFCI use history.

9. The data communication terminal unit according to one of claims 2 and 3, wherein in the reading and storing of the process parameter with respect to the process parameter buffer, the buffer control means uses the area of a non-use parameter table if such non-use parameter table is present.

10. The data communication terminal unit according to one of claims 2 and 3, wherein the buffer control means is constructed such that when no non-use parameter table is present in the process parameter buffer at the time of storing the process parameter buffer, the buffer control means determines a parameter table to be a superscription subject according to the result of a weighing process on at least either the use history of a plurality of times of past use of transport format combination indicator

(TFCI).

11. The data communication terminal device according to one of claims 4 and 5, wherein when no data transport rate restriction can be externally imposed, an upper rank system controls the setting of a pertinent preference rank record flag in the process buffer parameter according to the presence/absence data about discrete control channel (DCCH) and a transport format combination indicator (TFCI) as a combination of the maximum and minimum data quantity discrete traffic channels (DRCH).

12. The data communication terminal device according to one of claims 4 and 5, wherein no data transport rate restriction can be externally imposed, an upper rank system controls the setting of a pertinent preference rank record flag in the process parameter buffer according to the presence/absence data about discrete control channel (DCCH) and a transport format combination indicator (TFCI) as a combination of the maximum and minimum data quantity ones of the discrete traffic channel (DTCH) transport formats within the transport rate restriction.

13. The data communication terminal device according to one of claims 4 and 5, wherein process buffer parameter is capable of setting the management of the

supply and stop of its own operation power and operation clock for each parameter table and also capable of stopping the supply of the operation power and/or operation clock to the non-use parameter tables.

14. The data communication terminal device according to claim 2, wherein the coding parameter calculation unit is constituted by hardware such as electronic circuits, and the supply of its own operation power and/or operation clock is stopped when the process parameters of all transport format combination indicators (TFCI) in the utilized service have been calculated and stored in the process parameter buffer.

15. The data communication terminal device according to claim 3, wherein the coding parameter calculation unit is constituted by hardware such as electronic circuits, and the supply of its own operation power and/or operation clock is stopped when the process parameters of all transport format combination indicators (TFCI) in the utilized service have been calculated and stored in the process parameter buffer.

16. The data communication terminal device according to claim 2, wherein the coding parameter calculation unit is constituted by hardware such as electronic circuits, and when the number of transport format combination indicators (TFCI) in the utilized



service is less than the number of the parameter tables in the process parameter buffer, it calculates the process parameters with respect to all the TFCIs by making use of an idle time in the process.

17. The data communication terminal device according to claim 3, wherein the coding parameter calculation unit is constituted by hardware such as electronic circuits, and when the number of transport format combination indicators (TFCI) in the utilized service is less than the number of the parameter tables in the process parameter buffer, it calculates the process parameters with respect to all the TFCIs by making use of an idle time in the process.

18. The data communication terminal device according to one of claims 2 and 3, wherein the process parameter buffer can read out a part of full data possessed by itself at a desired timing into the upper rank controller for storing the read-out data in a pertinent non-volatile memory at a desired timing.

19. The data communication terminal device according to claim 18, wherein when the same service is utilized at the next time, initial data can be transported from the non-volatile memory to the process parameter buffer.

20. The data communication terminal device according to one of claims 2 and 3, wherein a part or full data held in the process parameter buffer are read out into the upper rank controller at a desired timing for storing the read-out data in a predetermined service in the network at a desired timing.

21. The data communication terminal device according to claim 20, wherein when utilizing the same service at the next time, initial data can be read-out from the service and transported to the process parameter buffer.

22. A data communication method in a communication system comprising a transmitting side and a receiving side data communication terminal device each having a communication function adopting a code division multiple access (DCMA) system, wherein:

a coding function part in the transmitting side data communication terminal device and a decoding function part in the receiving side data communication terminal device calculate, in calculating processes, parameters necessary for a coding and a decoding process in the coding and decoding function parts, respectively, according to designated transport format utilization frequency data and holds the calculated parameters in the own storage function parts, and for high utilization frequency parameters they read out and utilize parameters held in

the storage function parts without doing re-calculation, thus reducing power consumption necessary for calculation.

23. A data communication method by a data terminal having a communication function adopting a code division multiple access (CDMA) system, wherein:

a coding function part in the data terminal calculates, in a calculating operation, a parameter necessary for its coding process and holds the calculated parameter in its own storage function part, and for high utilization frequency parameters it reads out and utilize parameter data held in the storage function part without doing re-calculation, thus reducing power consumption necessary for calculation.

24. A data communication method by a data communication terminal device having a communication function adopting a code division multiple access (CDMA) system, wherein:

a decoding function part in the data communication terminal device calculates, by a calculating process, a parameter necessary for its decoding process and holds the calculated parameter in its own storage function part, and for high utilization frequency parameters it reads out and utilize parameter data held in the storage function part without doing re-calculation, thus reducing power consumption necessary for calculation.

25. The data communication method according to one of claims 23 and 24, wherein the updating of the parameter data held in the storage function part and the utilization frequency are managed, and the presence/absence data of discrete control channel (DCCH) data and the transport format combination indicator (TFCI) as a combination of the maximum and minimum ones of discrete traffic channel (DTCH) transport formats are preferentially stored in the storage function part, while regarding the other TFCIs the remainder of the pertinent parameters are selectively stored according to the utilization frequency thereof.

26. The data communication method according to one of claims 23 to 24, wherein the preference rank of the parameter to be applied is updated according to the transport rate control data or the receiving sensitivity data given from the network.

27. The data communication method according to one of claims 23 and 24, wherein at a desired timing a part or all of the process parameters and utilization frequency data stored in the storage function part are written in applied non-volatile memories, and at the next and following times of utilization the process parameters and utilization frequency data stored in the non-volatile memory are used.

28. A program for performing a data communication method in a communication system comprising a transmitting side and a receiving side data communication terminal device each having a communication function adopting a code division multiple access (DCMA) system, wherein: a coding function part in the transmitting side data communication terminal device and a decoding function part in the receiving side data communication terminal device calculate, in calculating processes, parameters necessary for a coding and a decoding process in the coding and decoding function parts, respectively, according to designated transport format utilization frequency data and holds the calculated parameters in the own storage function parts, and for high utilization frequency parameters they read out and utilize parameters held in the storage function parts without doing re-calculation, thus reducing power consumption necessary for calculation.

29. A program for performing a data communication method by a data terminal having a communication function adopting a code division multiple access (CDMA) system, wherein: a coding function part in the data terminal calculates, in a calculating operation, a parameter necessary for its coding process and holds the calculated parameter in its own storage function part, and for high utilization frequency parameters it reads out and utilize parameter data held in the storage function part without

doing re-calculation, thus reducing power consumption necessary for calculation.

30. A program for performing a data communication method by a data communication terminal device having a communication function adopting a code division multiple access (CDMA) system, wherein: a decoding function part in the data communication terminal device calculates, by a calculating process, a parameter necessary for its decoding process and holds the calculated parameter in its own storage function part, and for high utilization frequency parameters it reads out and utilize parameter data held in the storage function part without doing re-calculation, thus reducing power consumption necessary for calculation.